

REMARKS

In this Amendment, Claims 1, 3, 10-11, 14, 27, 29, 32 have been amended and Claims 8-9, 12, 33 have been canceled without prejudice. Accordingly, Claims 1-3, 6, 10-11, 13-16, 27-29, 31-32 are pending in the application.

Summary of Examiner Interview

Applicants hereby acknowledge and thank the Examiner for the Examiner Interview on July 12, 2005 between the Examiner, Sheila V. Clark, and the Attorney for Applicants, Serge J. Hodgson. During the interview, the Examiner suggested that the claims be further clarified. Although agreement was not reached that the application is in a condition for allowance, the Examiner did agree to possibly further discuss the claim language after filing of the Amendment in the event that this Amendment does not place the application in a condition for allowance.

Claims 1-3, 6, 10-11, 13-16, 27-29, 31-32 satisfy 35 U.S.C. 112, first paragraph.

The Examiner states:

What is the function of gate of the instant invention which is deemed to be a component of the lead frame?  
(Office Action, page 2.)

Claim 3 has been amended and now recites:

... the gate serving to make resin flow towards the die pad during molding ... .

Further, Applicants' specification at page 2, lines 17-21 sets forth:

The other of the tie bars 5 is connected to a gate 16 (shown at the upper and left edge of FIG. 10A) serving to make resin easily flow toward the die pad 4 during

**the manufacturing process (molding step).** (Emphasis added.)

The Examiner further states:

Also the disclosure fails to provide details relative to the function of the lead box and lead eye box. (Office Action, page 2.)

Claim 3 has been amended and now recites:

... a first lead eye box and a first lead eye point on the unsymmetrical part of the lead frame, **the first lead eye box comprising an image of a first area of the lead frame and the first lead eye point being a specific point within the first lead eye box;** and

a second lead eye box and a second lead eye point on the support bar of the lead frame, **the second lead eye box comprising an image of a second area of the lead frame and the second lead eye point being a specific point within the second lead eye box.** (Emphasis added.)

Further, Applicants' specification at page 4, lines 20-22 sets forth:

Generally, a lead (die) eye box is an image of an area and a lead (die) eye point is a specific location, i.e., point, within the lead (die) eye box.

Also see Applicants' specification at page 16, line 20 to page 17, line 31 regarding the function of the lead eye box and lead eye point.

For at least the above reasons, Claim 3 satisfies 35 U.S.C. 112, first paragraph. Claims 1-2, 6, 10-11, 13-16, 31-32, which depend from Claim 3, satisfy 35 U.S.C. 112, first paragraph, for at least the same reasons as Claim 3. Claims 27 and 29 satisfy 35 U.S.C. 112, first paragraph, for similar reasons as Claim 3. Claim 28, which depends from Claim 27, satisfies 35 U.S.C. 112, first paragraph, for at least the same reasons as Claim 27.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 3 satisfies 35 U.S.C. 112, second paragraph.

The Examiner states:

In claim 3 it is unclear to what type of component the "gate" refers. A gate can have many definitions (a mechanical structure, a region of a transistor, etc.) and the invention identifies the "gate" as a component of a lead frame. This should be identified as such in the claims. (Office Action, pages 2-3.)

Claim 3 has been amended and now recites:

... the gate serving to make resin flow towards the die pad during molding ... .

Further, Applicants' specification at page 2, lines 17-21 sets forth:

The other of the tie bars 5 is connected to a gate 16 (shown at the upper and left edge of FIG. 10A) serving to make resin easily flow toward the die pad 4 during the manufacturing process (molding step). (Emphasis added.)

Thus, one of skill in the art would understand what is being claimed in Claim 3 when read in light of the specification.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 3 is patentable over Moon (5,796,161).

The Examiner states:

Moon shows a clamp 11, a window 12A or 22A, lead frame 25 and gate observation hole 5. (Office Action, page 3, emphasis added.)

However, the Examiner has failed to callout where Moon teaches or suggests:

A structure for detecting the orientation of a lead frame comprising:

**the lead frame comprising:**

- a gate;**
- a support bar;**
- a die pad, the gate serving to make resin flow towards the die pad during molding; and**
- an unsymmetrical part selected from the group consisting of a dent part of the gate and a plated layer on the gate;**
- a clamp, the unsymmetrical part being visible through an observation hole of the clamp; and**
- a camera and pattern recognition system comprising:**
  - a first lead eye box and a first lead eye point on the unsymmetrical part of the lead frame, the first lead eye box comprising an image of a first area of the lead frame and the first lead eye point being a specific point within the first lead eye box; and**
  - a second lead eye box and a second lead eye point on the support bar of the lead frame, the second lead eye box comprising an image of a second area of the lead frame and the second lead eye point being a specific point within the second lead eye box,**

as recited in amended Claim 3, emphasis added.

Accordingly, Claim 3 is allowable over Moon.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claims 1-3, 6, 10-11, 13-16, 27-29, 31-32 are patentable over Applicant's stated art figures in view of Moon.

The Examiner states:

Applicant's prior art figures 9-14 and the admitted prior art in discussed in the disclosure on pages 1-10 show, discuss or suggest use of the various features recited in the claims **except for the observation holes** recited in claims 1 formed in an outer circumference of a window to set the gate of the lead frame. Moon shows a clamp 11, window 12A or 22A, lead frame 25 and gate hole 5. It would have been obvious to one having ordinary skill in this art to

provide an observation hole in the clamp of the prior art to improve alignment in view of the teachings of Moon ... (Office Action, pages 3-4, emphasis added.)

The Examiner's statement is respectfully traversed. The Examiner admits that the observation holes are not shown in figures 9-14. Further, the clamp 1100 (FIG. 11) lacked the observation holes. Accordingly, the dent part 16a of the gate 16 of the typical normal lead frame NLF, for example as shown in FIG. 10A, was covered by the clamp 1100 as shown in FIG. 13A. Thus, although the typical normal lead frame NLF included the dent part 16a of the gate 16, exposure of the dent part 16a through an observation hole for purposes of alignment was not recognized by those of skill in the art. Accordingly, the typical normal lead frame NLF taught away from use of observation holes and one of skill in the art would not combine the Applicants' stated art with Moon. Applicants respectfully submit that the Examiner is improperly using hindsight reconstruction to deprecate Applicants' claimed invention.

For at least the above reasons, Applicants' stated art in view of Moon does not teach or suggest:

A structure for detecting the orientation of a lead frame comprising:

**the lead frame comprising:**

a gate;

a support bar;

a die pad, the gate serving to make resin flow towards the die pad during molding; and

**an unsymmetrical part selected from the group consisting of a dent part of the gate and a plated layer on the gate;**

**a clamp, the unsymmetrical part being visible through an observation hole of the clamp; and**

a camera and pattern recognition system comprising:

**a first lead eye box and a first lead eye point on the unsymmetrical part of the lead frame, the first lead eye box comprising an image of a first area of the lead frame and the first lead eye point being a specific point within the first lead eye box; and**

**a second lead eye box and a second lead eye point on the support bar of the lead frame, the second lead eye box comprising an image of a second area of the**

lead frame and the second lead eye point being a specific point within the second lead eye box,

as recited in amended Claim 3, emphasis added. Accordingly, Claim 3 is allowable over Applicants' stated art in view of Moon.

Claims 1-2, 6, 10-11, 13-16, 31-32, which depend from Claim 3, are allowable for at least the same reasons as Claim 3. Claims 27 and 29 are allowable for reasons similar to Claim 3. Claim 28, which depends from Claim 27, is allowable for at least the same reasons as Claim 27.

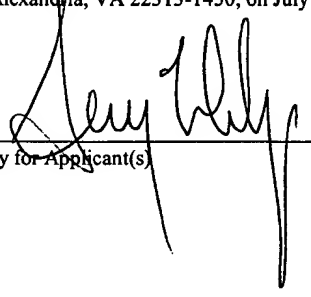
For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

#### CONCLUSION

Claims 1-3, 6, 10-11, 13-16, 27-29, 31-32 are pending in the application. For the foregoing reasons, Applicants respectfully request allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant(s).

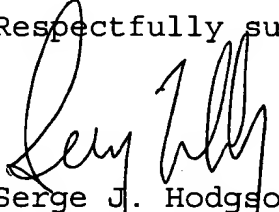
#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 15, 2005.

  
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Attorney for Applicant(s)

July 15, 2005  
Date of Signature

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